

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|---|------|-----|-------------|--|--|----------------------|
| 1 | BRS | L3 | 1069 41 | quality near10 control\$5 | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:23 |
| 2 | BRS | L16 | 6340 8 | quality near5 control | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:45 |
| 3 | BRS | L17 | 3298 0 | (hierarchic\$3 or tree or tree-like) near10 structure | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:47 |
| 4 | BRS | L18 | 557 | l16 and l17 | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:47 |
| 5 | BRS | L19 | 2023 511 | plan or test | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:47 |

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|----|------|-----|-------------|---|--|------------------|
| 6 | BRS | L20 | 318 | l18 and l19 | USPAT; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/02 10:47 |
| 7 | BRS | L21 | 1038 23 | template | USPAT; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/02 10:48 |
| 8 | BRS | L22 | 2396 250 | level | USPAT; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/02 10:48 |
| 9 | BRS | L23 | 103 | l20 and l21 and l22 | USPAT; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/02 10:49 |
| 10 | BRS | L24 | 5343 20 | (form\$4 or generat\$4) near10 plan\$4 | USPAT; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/02 10:51 |

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|----|------|-----|------------|---|--|----------------------|
| 11 | BRS | L25 | 5549 88 | (form\$4 or generat\$4 or develop\$4) near10 plan\$4 | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:51 |
| 12 | BRS | L26 | 42 | I23 and I25 | USPA T; US-P GPUB ; EPO; JPO; DER WEN T | 2003/12/0 2 10:52 |

| | Type | Hits | Search Text | DBs | Time Stamp |
|----|------|---------|--|------------------------------------|------------------|
| 1 | BRS | 37 | enterprise adj3 resource adj3 management | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 08:55 |
| 2 | BRS | 44 | enterprise adj3 resource adj3 management | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/11/25 16:10 |
| 3 | BRS | 12345 | (purchase or sale) near5 order | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/11/25 16:11 |
| 4 | BRS | 20806 | helper | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/11/25 16:12 |
| 5 | BRS | 1 | helper and ((enterprise adj3 resource adj3 management) and ((purchase or sale) near5 order)) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/11/25 16:12 |
| 6 | BRS | 4 | (enterprise adj3 resource adj3 management) and ((purchase or sale) near5 order) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/11/25 16:13 |
| 7 | BRS | 142 | test? near5 plan | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:12 |
| 8 | BRS | 106 | template?? | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:13 |
| 9 | BRS | 0 | ((test? near5 plan??) and (quality near5 control)) and template?? | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:13 |
| 10 | BRS | 17 | (test? near5 plan??) and (quality near5 control) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:20 |
| 11 | BRS | 0 | (test near5 plan) near10 template?? | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:21 |
| 12 | BRS | 16 | (test near5 plan) near10 template\$2 | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:21 |
| 13 | BRS | 7 | (quality near5 control) and ((test near5 plan) near10 template\$2) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/01 16:22 |
| 14 | BRS | 1639 | test? near5 plan?? | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 08:55 |
| 15 | BRS | 3153 | test near5 plan | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 08:56 |
| 16 | BRS | 103823 | template | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 08:56 |
| 17 | BRS | 19 | (test near5 plan) and template and ((hierarchic\$3 or tree or tree-like) near10 structure) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 09:01 |
| 18 | BRS | 2396250 | level | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2003/12/02 09:01 |

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|---|------|-----|--------|---|--|------------------|
| 1 | BRS | L4 | 658503 | link or hyperlink or hyper-link | USPAT; US-PG PUB; EPO; JPO; DERWENT; IBM_TDB | 2003/12/02 13:04 |
| 2 | BRS | L5 | 42 | (((((quality near5 control) and ((hierarchic\$3 or tree or tree-like) near10 structure)) and (plan or test)) and template and level) and ((form\$4 or generat\$4 or develop\$4) near10 plan\$4) | USPAT; US-PG PUB; EPO; JPO; DERWENT | 2003/12/02 13:05 |
| 3 | BRS | L6 | 34 | I4 and I5 | USPAT; US-PG PUB; EPO; JPO; DERWENT | 2003/12/02 13:06 |
| 4 | BRS | L7 | 41419 | browser | USPAT; US-PG PUB; EPO; JPO; DERWENT | 2003/12/02 13:13 |
| 5 | BRS | L8 | 14 | I6 and I7 | USPAT; US-PG PUB; EPO; JPO; DERWENT | 2003/12/02 13:13 |

| | 3 | 4 | Document ID | Issue Date | Pages | Title | Inventor | Current OR |
|----|-------------------------------------|--------------------------|-------------------|------------|-------|--|--------------------------------|------------|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | US 20030177025 A1 | 20030918 | 88 | Method and system for agricultural data collection and management | Curkendall, Leland D. et al. | 705/1 |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | US 20030112921 A1 | 20030619 | 37 | Methods and devices for analysis of x-ray images | Lang, Philipp et al. | 378/54 |
| 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | US 20030009740 A1 | 20030109 | 23 | Dual & parallel software development model | Lan, Hongbing | 717/102 |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> | US 20020184250 A1 | 20021205 | 78 | Methods and systems for auto-instantiation of storage hierarchy for project plan | Kern, Jonathan et al. | 707/204 |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> | US 20020183934 A1 | 20021205 | 53 | Methods for making character strings, polynucleotides and polypeptides having desired characteristics | Selifonov, Sergey A. et al. | 702/19 |
| 6 | <input type="checkbox"/> | <input type="checkbox"/> | US 20020158765 A1 | 20021031 | 81 | Method and system for livestock data collection and management | Pape, William R. et al. | 340/573.3 |
| 7 | <input type="checkbox"/> | <input type="checkbox"/> | US 20020082846 A1 | 20020627 | 15 | Method and system for generating quality control testing procedures | Chang, Ming-Chih et al. | 705/1 |
| 8 | <input type="checkbox"/> | <input type="checkbox"/> | US 20010034023 A1 | 20011025 | 210 | Gene sequence variations with utility in determining the treatment of disease, in genes relating to drug processing | Stanton, Vincent P. JR. et al. | 435/6 |
| 9 | <input type="checkbox"/> | <input type="checkbox"/> | US 6629081 B1 | 20030930 | 218 | Account settlement and financing in an e-commerce environment | Cornelius, Richard D. et al. | 705/30 |
| 10 | <input type="checkbox"/> | <input type="checkbox"/> | US 6615166 B1 | 20030902 | 326 | Prioritizing components of a network framework required for implementation of technology | Guheen, Michael F. et al. | 703/27 |
| 11 | <input type="checkbox"/> | <input type="checkbox"/> | US 6536037 B1 | 20030318 | 329 | Identification of redundancies and omissions among components of a web based architecture | Guheen, Michael F et al. | 717/151 |
| 12 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | US 6519571 B1 | 20030211 | 325 | Dynamic customer profile management | Guheen, Michael F. et al. | 705/14 |
| 13 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | US 6473794 B1 | 20021029 | 328 | System for establishing plan to test components of web based framework by displaying pictorial representation and conveying indicia coded components of existing network framework | Guheen, Michael F. et al. | 709/223 |
| 14 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | US 4558413 A | 19851210 | 58 | Software version management system | Schmidt, Eric E. et al. | 707/203 |

| | Current XRef |
|----|--|
| 1 | 340/5.92; 705/7 |
| 2 | |
| 3 | 717/103 |
| 4 | |
| 5 | 536/23.1 |
| 6 | 340/531; 340/539.1; 340/572.1 |
| 7 | |
| 8 | 702/20 |
| 9 | |
| 10 | 703/26; 709/220; 709/223; 709/231; 709/316; 717/140 |
| 11 | 703/2; 709/231 |
| 12 | |
| 13 | 709/224 |
| 14 | 717/110; 717/145; 717/171 |

9/9,K/3 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

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6117891 INSPEC Abstract Number: B9902-6210L-017, C9902-5620-005

Title: Engineering CORBA-based distributed systems

Author(s): Juanes, R.; Bellas, F.; Rodriguez, N.; Vina, A.

Author Affiliation: Dept. de Electron. y Sistemas, Univ. Alfonso X EI Sabio, Madrid, Spain

Conference Title: Proceedings Third IEEE Symposium on Computers and Communications. ISCC'98. (Cat. No.98EX166) p.281-5

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Publication Date: 1998 Country of Publication: USA xvii+720 pp.

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Conference Title: Proceedings of 3rd IEEE Symposium on Computers and Communications

Conference Sponsor: IEEE Commun. Soc.; IEEE Comput. Soc. Tech. Committee on Simulation

Conference Date: 30 June-2 July 1998 Conference Location: Athens, Greece

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: **Development** of distributed applications is a difficult task. Object Requests Brokers (ORBs) facilitate the **development** of large and complex distributed applications. However, the programmer still has to deal with a complex framework, which increases the learning curve. In this paper, we present a middleware that tries to facilitate the transition from the design to the implementation. The middleware is made up of a C++ framework and an Agent Definition Language (ADL). The framework is implemented on top of a CORBA ORB and provides the programmer with high-level abstractions, such as "agent" and "FUN" (a special class of agent that delegate part of its functionality into a number of cooperating agents). ADL is a **template**-like language, which hides the underlying C++ framework from the programmer (including the CORBA ORB). The paper makes special emphasis in describing such a language. (11 Refs)

Subfile: B C

Descriptors: client-server systems; distributed object management; **tree** data structures

Identifiers: CORBA-based distributed systems engineering; object requests brokers; middleware; C++ framework; agent definition language; high-level abstractions; cooperating agents; template-like language

Class Codes: B6210L (Computer communications); C5620 (Computer networks and techniques); C6120 (File organisation); C6110J (Object-oriented programming)

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...Descriptors: **tree** data structures

?

9/9,K/2 (Item 2 from file: 275)
DIALOG(R) File 275:Gale Group Computer DB(TM)
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01384551 SUPPLIER NUMBER: 08817508 (THIS IS THE FULL TEXT)
Building an integrated system for MIS project planning. (Norwest Corp. of Minneapolis) (company profile)
Prigge, Rob
Computers in Banking, v7, n8, p40(2)
August, 1990
DOCUMENT TYPE: company profile ISSN: 0742-6496 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1709 LINE COUNT: 00146

ABSTRACT: Integrated Project Management System (IPMS) is an integrated system implemented by Norwest Corp in Minneapolis. IPMS replaces three computer systems with one system to plan, track and control MIS operations. The three older systems had a lot of data redundancy that is now eliminated by the single system. Other improvements include better strategic and tactical decision making with better and more timely management information, consistent systems development methodologies across MIS operations, and additional automated support for project management. IPMS is a menu driven system that allows the company to customize time-reporting screens for applications developers.

TEXT:

Norwest Corp., Minneapolis, a \$24billion-asset bank holding company, has replaced three disparate computer systems with a single, integrated system used to plan, track, and control MIS operations within the institution.

By all measurements, the Integrated Project Management System IPMS) has met initial goals of the effort to revamp MIS project controls. The system has helped to eliminate data redundancy prevalent in the three older systems; improve strategic and tactical decision making through better and more timely management information across the organization; support consistent systems development methodologies across MIS operations; and provide additional automated support of functions that improve project management.

IPMS is a comprehensive implementation of the Multitrak MIS Project Control System from Multitrak Software Development Corp., Boston. IPMS provides MIS managers at all levels with a single tool for consolidated reporting. Through the system's centralized project repository, management information is easily stored and aggregated to the appropriate reporting levels.

IPMS has replaced a web of inconsistent approaches to reporting information. Norwest's MIS organization now produces one set of standardized, regularly issued management reports.

In addition, Norwest has found that the system as implemented meets two requirements: ease of use and flexibility. The menu-driven system has enabled Norwest to customize time-reporting screens for application developers. Also, the system's Work Breakdown data base has been flexible enough to accommodate five very different groups within Norwest Technical Services (NTS).

NTS is a Norwest subsidiary chartered with MIS responsibilities for been able to implement specific workbreakdown structures for three systems development groups and information services, which it oversees, and one of Norwest's line business units, Community Bank Services. A work-breakdown structure delineates the components of a project and stores them within a hierarchical tree -structure data base.

Centralized Repository

The key to the IPMS is Multitrak's mainframe-based repository that centralizes all NTS project information within a single hierarchical structure for each major organizational group. This repository, called the Work Breakdown data base, provides the foundation for all functions performed by the system. NTS is using Multitrak for project planning, personnel resource management, inventory of work items, project scheduling and management, project accounting, budgeting, and chargeback to the

appropriate project sponsors.

The system's on-line, time-phased reporting facility-called Timeview enables authorized users to easily query the data base by rolling up or drilling down to the appropriate level of detail to gain aggregate summaries across a single or multiple projects. Through both Timeview and periodic batch reports, IPMS provides timely consolidated information on costs and scheduling.

Timeview summarization capabilities can aggregate costs and cost estimates by project, phase, cost center, cost category, dates, etc.

The Old Days

The need for Norwest to build an integrated system became readily apparent after a review of the project management tools in place prior to the installation of IPMS. NTS business functions had been spread between three isolated systems; PC software was used as a billing tool by the finance area to charge back the costs of the systems development groups. The internally developed Resource Planning System captured budget information for systems development groups to track against their corporate customers. A third system was used for inventory in order to track work-order items.

Data redundancy between these systems and independently utilized PC project-management packages clogged efforts to monitor costs and track development projects. No interface or connection existed between systems. For example, budget information in one system could not be compared with the "actuals" on another system without physically extracting data and placing data in a Lotus spreadsheet or other package. Meaningful reports were difficult and time consuming to compile.

The lack of enforceable standardized methodologies allowed MIS personnel to feed tracking systems or their own PC software in different ways and to report information differently.

Standardized Methodologies

Rather than attempting to retrofit these systems, NTS elected to install a new system-one that could accommodate a standardized systems development methodology across all NTS units. While NTS had a methodology in place at the time, the company lacked an automated facility to support it.

In order to gain centralized control of billing and project tracking, NTS recognized the need for a project control system that operated within a mainframe environment. Multitrak, which runs under CICS on IBM MVS hosts, met NTS requirements for business functions and had the necessary flexibility to adapt to different software development groups and the many types of NTS corporate clients. Even among development groups, needs varied. For example, one group might need to track a single, large multi-year project while another group might need to monitor thousands of smaller development and maintenance efforts.

Within IPMS, NTS modeled the Work Breakdown data base after both the NTS organizational structure and its development methodology. Through this model, business functions such as budgeting, accounting, and project tracking and estimating have been integrated with IPMS procedures. Today, consolidated reports are easily rolled up to the appropriate managerial level.

To implement the project management system, NTS developed the necessary data structures for the project repository by defining cost categories and tasks. Projects are defined in a topdown manner and "located" under the appropriate organizational element in the Work Breakdown data base. Work is divided at each successive workbreakdown level into smaller and smaller units. All cost and project information is stored within the workbreakdown architecture. This scheme associates the actual development and maintenance work to be performed to each group's organizational structure.

For all groups, the Work Breakdown hierarchy contains at least seven levels: group, division, department or cost center, project, phase, task group, task, and, optionally, sub-task. Project schedules highlight deliverable dates and progress is reported against tasks. Time and costs are captured at the lowest level and are rolled up into summaries.

Templates For Development

Aproject manager can build a project plan either by adding individual

activities or by accessing pre-defined **templates** of standard activities. **Templates** can vary in size from the entire systems development methodology pyramid to a one-level **template** designed, say, for documentation writers. This latter **template** might contain six tasks that documentation writers must perform for each project. A manager, when building a project, simply copies that **template** into his or her plan.

The use of templates at NTS helps project managers accelerate the project initiation and planning process. In addition, templates give senior management, at last, a standardized methodology that is easily implemented throughout the organization.

The system's Work Breakdown data base also enables managers to perform resource planning across cost centers. With Multitrak's resource-scheduling facility, human resources are not bound to one cost center or project. In response to what-if queries, Multitrak's resource scheduler can juggle priorities of all impacted projects.

Project managers can model project plans through what-if analysis and visually assess results by viewing interactive, on-screen Gantt charts. These charts can also be used to compare planned and current schedules and spot scheduling trends. Within the IPMS system, what-if analysis is used to determine the impact of new or departing personnel, to make changes in schedule dates, to revise a project plan that has grown larger in scope, and to rerank projects or project tasks in order of priority. For example, if a project must be completed by a certain date in order for Norwest to meet a federal regulation requirement, a manager can quickly determine necessary resource loads and schedules by plugging in the required completion date and tasks to be performed.

By monitoring costs and tracking projects within a detailed development methodology, complex projects have become more manageable for NTS. Regular batch reports that indicate to date status help to provide control over each phase of a project. Now that NTS has implemented its methodology within IPMS, senior managers can begin to track costs across projects as a breakdown of methodology components such as design, development, testing, and maintenance.

In implementing IPMS, NTS packaged Multitrak Software's menu-driven screens through training materials customized for each of four tiers of users: project managers, application developers who report time, senior executives in need of summary information, and systems managers who need budget information for managing their departments.

At first, NTS targeted most batch report information to senior-level managers without rewarding the highest volume of users of the system: the timereporting audience. To encourage use and acceptance of a new system, NTS now supplies each type of user with regular summary reports tailored for them.

Multitrak helped NTS develop several interface programs to feed the system with special information. One feed, for example, captures CPU time, which is charged back to the appropriate application.

A critical element for implementing IPMS was senior management support. Although integrated project management is somewhat of a new concept for MIS organizations, upper management was convinced of the importance of undertaking the project. As a result, senior management now has one set of standardized, regularly issued management reports.

While monetary benefits may be difficult to quantify, IPMS has noticeably improved capabilities provided for NTS decision support and management control.

With the system now in place, NTS will attempt to formally quantify the cost benefits by tracking how closely projects match both original schedule and cost estimates. With each project, NTS builds on a historical data base of experience useful for future project planning and estimating.

Project management is hardly an exact science-particularly when attempting to forecast the cost and duration of large projects. Yet, IPMS allows managers to track huge projects and make necessary adjustments. IPMS has proven to be an effective tool for tracking costs and schedules, charging back corporate clients, and managing projects. The improvement over earlier attempts is indisputable. m

COMPANY NAMES: Norwest Corp.--Automation
DESCRIPTORS: Banking; Project Management Systems; MIS; Reorganization;
Integrated Systems
SIC CODES: 6000 DEPOSITORY INSTITUTIONS
TICKER SYMBOLS: NOB
FILE SEGMENT: CD File 275

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The key to the IPMS is Multitrak's mainframe-based...

...can build a project plan either by adding individual activities or by accessing pre-defined **templates** of standard activities. **Templates** can vary in size from the entire systems development methodology pyramid to a one- level **template** designed, say, for documentation writers. This latter **template** might contain six tasks that documentation writers must perform for each project. A manager, when building a project, simply copies that **template** into his or her plan.

The use of templates at NTS helps project managers accelerate...

9/9,K/1 (Item 1 from file: 275)
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02316999 SUPPLIER NUMBER: 55198530 (THIS IS THE FULL TEXT)
HELP! I NEED SOMEBODY! HELP! NOT JUST ANYBODY! (Ten help desk software
products) (Software Review) (Evaluation)
GREEN, ANDY
Teleconnect, 17, 6, 73
June, 1999
DOCUMENT TYPE: Evaluation ISSN: 0740-9354 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 3129 LINE COUNT: 00247

ABSTRACT: Ten help desk software and related products are reviewed. These include Bendata's HEAT 5.0 (starting price \$3,495 per seat), Clarify's ClearHelpdesk(\$20,000 per application server), Troika Software's Resolve It! (\$499 for a single user for the Standard Edition) and Advantagekbs' IQSupport Application Suite help desk software. Applix's Enterprise business application which comes with both both an internal help desk module and an external customer module is also reviewed. The remaining five products are Knowlix's \$695-per-seat iKnow, Knowledge Builder 4.0 (begins at \$5,000) and Web Advisor 4.0 (\$10,000 to \$40,000 range) from Servicesoft, Arial Systems ArialView and Tigerpaw Software's Business Suite 7.0.

TEXT:

You'll Need A Good Staff with Great Help Desk and Customer Support Software

APPLIX

Applix's (Westboro, MA -- 508-870-0300) Enterprise Suite of applications includes both an internal help desk module (Applix Helpdesk) and an external customer one (Applix Service). The complete suite lets you do CRM, but you can purchase just the modules you'll need. All modules rest on the sturdy Enterprise Solutions Platform (ESP) architecture, which was designed specifically so that client software on the desktop is "thin." If you ever had to wedge an oversize app into your desktop, you'll appreciate slimmer ones that can fit into small machines. Applix has accomplished this little miracle by moving a lot of the processing software out onto network servers, using true client/server architecture.

Its Helpdesk and Service modules offer all the standards that we expect from problem tracking and customer management software. You're given the tables, **forms**, and **task** lists you'll need to manage the call log records. The Service module includes a service contract obligation management module to ensure you meet your service **level** agreement. Of course, almost everything can be extended and customized to your particular help desk. However, to get started, you'll need to have the pros at Applix come down and do a formal business analysis. They'll set up the initial **templates** so you can get started. Implementation is done by Applix or one of its business partners, depending on the client's needs. For example, to get a telephony front end, they'll call in ATIO Corp. ATIO's CyberCall was specifically designed for ESP and funnels telephone, email, VoIP, and Web call-back into your command center so that all customers receive the same service, regardless of the media of the incoming call for help.

To offer great customer service and really make customers, corporate and otherwise, feel like they're the boss, just pop in Applix's Service module. For corporate customers, the Service module lets support staff organize geographically diverse locations under a single hierarchy. Agents can either drill down into a specific location or roll it all up when examining open problem statistics and generating reports. To gain access to your organization's back-end databases, Applix has an API that'll let agents retrieve all the customer-centric data -- account information and invoices -- and perform online transactions. Of course, you'll need your development staff to do this level of customization. The company's API works with all the usual relational databases, including Informix and Sybase.

If the Service or Helpdesk module is not thin enough, or you have a distributed call center environment, you may want to look at Applix's 100%

Java, thin Internet client software (less than 400K). It offers the same functions as the Windows flavor, but since it's Java, your support staff can handle problems anywhere on the Net with just a browser.

BENDATA

HEAT (HelpDesk Expert Automation Tool) 5.0 from Bendata (Colorado Springs, CO -- 800-776-7889) is a classic problem-tracking tool. After examining a demo version, I'd say it's better described as a Swiss Army knife of help desk automation.

As is the case with the other help desk software in this roundup, much of HEAT is dedicated to maintaining and administrating the call log record or call ticket, a form containing the myriad details associated with a help desk problem. Since it's easy to get lost in all this, whenever you bring up a call record form, HEAT's Call Map shows up in its own frame. With this map, organized as a collapsible **tree**, you can quickly find specific bits of information you've been looking for. Want to know who's been assigned a problem for a given call record? Just click on the Assignments node and the assignment "leaves" sprout. Users can even decide which call record details will show up in the Call Map **tree**. In fact, just about everything with this application can be configured. Users can add new fields to the call record, decide what values are valid for a given field, redesign the call record form, or add new organizational groups to categorize the assignees -- the guys and gals who do the actual work. Thankfully, Bendata has made customization easier with its Quick Start Wizard. Bring it up and the wizard grills you with a series of questions that'll help it customize the application for your particular industry's requirements. If you're feeling ambitious, you can bring up HEAT Manager and do the customization work on your own.

Besides all the fields and forms you can define, HEAT also lets you automate many common tasks that make up the help desk world. After a call record is opened, you'll want to assign it, set the call's priority, and set a target date. Sure, you can do it manually, but with Auto Task you can define all the actions that make up your tasks just once, then activate the task with a single click.

With release 5.0, Bendata has added a knowledge engine, called First Level Support, that lets support staff hang "first-level" support answers off their **tree** of knowledge. First Level Support also cooperates with Knowlix's (see page 76) knowledge engine.

Notable: Bendata's HEAT Telephony Manager delivers caller ID to the HEAT Call Logger and so triggers a pop-up on the agent's PC. The agent is in control of the call and can transfer the call to another agent after a problem assignment is made. Telephony Manager cooperates with many PBXs, including Lucent Definity, Inter-Tel Axxess, Nortel Meridian, and Mitel SX2000. Check with Bendata to see if there's an integration for your PBX.

HEAT starts at \$3,495 per analyst seat; ten seats go for \$21,745; 20 for \$32,745.

CLARIFY

Clarify (San Jose, CA -- 408-573-3000) is a leader in help desk and customer relationship management software. ClearHelpdesk is a solid, internal problem-tracking and resolution product. FrontOffice 98 puts customer management, technical support, and call center functions into a single offering. In March, the company announced eFrontOffice, which brings email and Web under the same umbrella. In fact, all requests are funneled into a single queue. Managers can prioritize requests based on a specific service level agreement, regardless of the media. However, for these new media requests, special considerations are given. Email requests are examined to see which ones can be responded to automatically. Web surfers will receive an estimated waiting time until a call is returned, after they click a call-me button. When the agent does call back, he knows which Web screen the surfer was looking at. Clarify has also introduced Web collaboration so that an agent can follow a surfer as they both surf through a Web site. Finally, it has introduced CTI interfaces for products from Dialogic, Aspect, and Genesys. Pricing for Web collaboration, email Response Management, and CTI interfaces starts at \$20,000 per application server.

TROIKA SOFTWARE

Troika's (Houston, TX -- 713-680-2902) Resolve It! is a

meat-and-potatoes customer-support application that marries problem tracking with problem resolution. You'll find the usual features of this breed of software: assignee notification, reporting, and automatic escalation of unresolved problems. One feature that earns Resolve It! a second look, however, is a knowledge base that can be examined directly within the GUI: no need to launch a separate application. Agents can search their Problems and Solutions knowledge base for a matching problem. Knowledge bases, of course, need to have been previously created. Once in place, though, agents can bring up a solution *tree* that'll help guide the caller through a successful resolution. Also notable: A knowledge base problem can be linked to any executable file. So just link a problem to a related Microsoft Help file and agents can do additional research. This is how you do "first time final!" Troika also has Web products for the distributed call center (Resolve It! Agent) and one for real users who want to try it themselves (Resolve It! Client).

Resolve It! comes in two sizes: Standard for small business, Enterprise for larger organizations. The Standard Edition starts at \$499 for a single user and runs to \$1,790 for four users. The Enterprise package starts at \$1,500 per user and then, depending on the number of licenses purchased, can drop down to \$800 a seat.

KNOWLEDGE ENGINES

ADVANTAGEkbs

An expert's knowledge is just a click away with Advantagekbs' (Edison, NJ -- 732-287-2236) IQSupport Application Suite. The company has done more than just offer a knowledge *tree* frame on which to hold told info leaves; it's modeled an expert's problem-solving techniques and made them available to front-line support staff. Experts, gurus, and other wizards think in terms of causes, deciding which symptoms imply which problems. Once a problem or cause is proposed, experts subject their diagnosis to additional tests to confirm a cause or rule one out. With IQSupport Pro, first-line support is guided through this troubleshooting process. Help desk agents enter symptoms as free-form text, and IQSupport returns a list of matches from its symptom knowledge base. After a symptom is selected, IQSupport generates a script of questions for the agent to ask. Some of these questions require the caller to try a test and report back the results. As the agent proceeds through the script, recording answers, IQSupport proposes a solution or remedy. Instant expert!

Advantagekbs also puts an expert within reach of anyone in your organization. Its IQWebPro has the same functionality as IQSupport Pro, but since it's written in Java, it'll run on any browser so coworkers can help themselves to answers. The company can also encourage customer to seek "self-help" with its IQWeb, for use with any Web browser.

IQSupportPro was designed to work with call-tracking software from several vendors. Support staff can bring up IQSupportPro directly from the window on which the initial problem is entered and start a problem resolution session. Callers experience closure with just one phone call! The open architecture also lets companies customize the call-logging-IQSupport interaction because DDE is supported. Currently, integrations are available for products from Vantive, Clarify (see page 74), Scopus, and Remedy.

KNOWLIX

To help your agents to do "first time final," you should consider Knowlix's (Draper, UT -- 800733-2019) iKnow software so your help desk and external customer support desk staff can quickly find the right answer. Start with the iKnow software (\$695 per seat) to search existing knowledge bases -- repositories of knowledge about a single subject -- using English language queries, not computerese. Knowledge bases can be purchased from third-party vendors. ServiceWare, KnowledgeBroker, and Microhouse have a knowledge base with your name on it! iKnow is smart enough to figure out the industry context in which words are used and will extend a search to include related words: a search for "install a modem" would also capture "set up" or "add" a modem, iKnow also spell-checks a query against the knowledge base's dictionary, avoiding the common problem of a search based on a malformed query. As your staff uses iKnow to resolve problems, new knowledge is added to the knowledge base, allowing iKnow to become wiser as it grows older.

If your company has existing documentation in the form of HTML, RTF, or word processing files, it can use iKnowBuilder (\$2,495 per seat) to distill the knowledge content and create a customized knowledge base. For HTML files, Hyperlink information is preserved so that when iKnow presents the results of a search, a click will take you to the original Web site. Advanced compression technology can reduce a Web site's worth of files to 60% of its original size.

To Q/A knowledge gathered from iKnow, get Knowlix's iKnowAuthor (\$2,495 per seat) application. iKnowAuthor manages the knowledge-acquisition process by first sending new knowledge to your internal experts for further editing. This purified knowledge can then be stored back in the knowledge base or published on the Net. Ordinary surfers can query the knowledge base, if they have Knowlix's iKnowWeb. With iKnowWeb running on the server side, end users can solve problems themselves. They get to enter the same natural-language queries (English) in their Web searches that your staff does with the far fatter iKnow application, iKnowWeb talks ISAP and NSAPI, so it cooperates very nicely with Microsoft's Internet Information Server and Netscape's Enterprise Web Server. iKnowWeb starts at \$5,000 for up to ten users. An unlimited license goes for \$25,000.

SERVICESOFT TECHNOLOGIES

Knowledge Builder and Web Advisor from Servicesoft (Needham, MA -- 781-449-0049) have some pretty good references on their CVs, including Cisco Systems, Yahoo, and Xerox. These very successful companies know a few things about customer service and they've used Knowledge Builder along with Web Advisor to let users -- ordinary and power -- solve the problems themselves. Knowledge Builder is a development system that lets your experts capture their problem-solving techniques and make them available to the rest of us. It doesn't rely on a single methodology but rather combines natural-language reasoning, decision trees, and cause-effect models, letting knowledge-base builders pick the one that makes the most sense for the problem domain. Advice-seeking end users will guide themselves to a successful resolution effortlessly.

To deliver this knowledge-base wisdom directly to your users or customers, you'll need Web Advisor. Web Advisor runs on any browser, and with Java applets and ActiveX objects, you'll be able to let users access corporate databases. That's the way you do customer-centric service over the Web. Check out www.servicesoft.com and test out Web Advisor. I did and finally found out why my car was acting up.

Knowledge Builder Version 4.0 begins at \$5,000. Web Advisor 4.0 ranges from \$10,000 to \$40,000.

GET ME THE GURU!

Sometimes you really need to talk to the expert and not a help desk professional, even though great help desk software can put an army of virtual experts at the other end of the wire, Arial Systems (Vernon Hills, IL -- 847-575-9905) has focused on the software and hardware that allows a customer support center to first determine who the right person is, and then where she is. Obviously, this approach makes sense for a company whose principal assets are the knowledge workers who roam its corridors. But any business with a call center operation could benefit from knowing exactly where the expert is.

ArialView, the company's core product, is essentially a Web-based directory of company employees, but it can be dressed up to provide a complete solution. An administrator enters employee personnel data into Arial's forms. Besides the obvious information, such as phone, email, and beeper number, they enter skills, as well as information on backup personnel -- understudies who can field a question in case the doctor is out. The forms are published to a company's intranet server and then the info is available to anyone who has a browser. With this "software-only" solution, important gurus can bring up a browser and let the rest of the intranet know whether they're available for questions or going out to lunch.

However, if you add ArialView Total Access Architecture, you get automatic expert tracking, since these roving knowledge bases now wear special unobtrusive infrared transmitters that send out an identifying beacon. Listening for these signals are a series of infra-detectors that

hang off existing CAT five cabling and route position information to a special NT controller. With this additional infrastructure in place, a call center agent or receptionist can bring up the personnel Web page of the needed employee and see her updated location -- conference room, office, or corridor -- and more important, the number of the nearest phone! If the employee is not near a phone, a paging system lets an operator direct an announcement to the hallway where she's hanging out. Of course. Total Access Architecture requires a configuration phase in which the physical layout of the building, including phones, is mapped to Arial's internal database. But once this is done, you get some interesting possibilities. Want to see who's in the meeting in conference room B? Surf to the location profile and the Web page shows a room map with icons indicating everyone in the room. This solution doesn't come cheap, though: It'll cost you between \$2.50 and \$4.50 a square foot.

Where's the telephony in all this? Thanks to a partnering with Dialogic. Arial will be introducing Arial Connect, which will turn those phone numbers on a employee's Web page into "live" URLs. Arial Connect comprises an NT-based telephony server built from Dialogic's CT Connect software. Now when you click on the employee's phone number, the ArialVoice Browser server will place the call for you. You'll also be able to set up conferencing and transfers with just a point and click. The technology is in place at the company's home offices, and was used to track down someone from the development staff when I called and needed to confer with an expert!

TIGERPAW SOFTWARE

Customer relationship management (CRM) is more than just support, even though that's very important. It's also about giving your customer great service, and that means you'll need software that does customer contact management, invoicing, technician tracking, inventory control, and more. Tigerpaw Software (Omaha, NE -- 402-592-7317) is well known for its TIMES product, which is used by many of the top interconnects. With Business Suite 7, which will ship in May after beta testing has completed, Tigerpaw lets your company pounce on customers. The software is broken down into four modules: Pursuit Account Management, Service and Repair, Quotes, and Parts. In addition to contact management and inventory control, this product boasts MAC service call tracking, circuit tracking, and purchasing. Three hundred reports should satisfy the appetite of even the most data-hungry manager.

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COMPANY NAMES: Applix Inc.--Products; Bendata Inc.--Products; Clarify Inc.--Products; Troika--Products; Advantagekbs Inc.--Products; Knowlix Corp.--Products; ServiceSoft Corp.--Products; Arial Systems--Products; Tigerpaw Software--Products

DESCRIPTORS: Business application suite; Help desk software; Software multiproduct review

PRODUCT/INDUSTRY NAMES: 7372564 (Help Desk Software); 7372405 (Integrated Software)

NAICS CODES: 51121 Software Publishers

TRADE NAMES: Applix Enterprise (Business application suite)--Evaluation; HEAT 5.0 (Help desk software)--Evaluation; ClearHelpdesk (Help desk software)--Evaluation; Troika Resolve It! (Help desk software)--Evaluation; IQSupport Application Suite (Help desk software)--Evaluation; Knowlix iKnow (Help desk software)--Evaluation; Knowledge Builder 4.0 (Help desk software)--Evaluation; Web Advisor 4.0 (Help desk software)--Evaluation; ArialView (Help desk software)--Evaluation

FILE SEGMENT: CD File 275

... that we expect from problem tracking and customer management software. You're given the tables, **forms**, and **task** lists you'll need to manage the call log records. The Service module includes a service contract obligation management module to ensure you meet your service **level** agreement. Of course, almost everything can be extended and customized to your particular help desk...

...Applix come down and do a formal business analysis. They'll set up the

initial **templates** so you can get started. Implementation is done by Applix or one of its business...

...Call Map shows up in its own frame. With this map, organized as a collapsible **tree**, you can quickly find specific bits of information you've been looking for. Want to...

...Users can even decide which call record details will show up in the Call Map **tree**. In fact, just about everything with this application can be configured. Users can add new...

...called First Level Support, that lets support staff hang "first-level" support answers off their **tree** of knowledge. First Level Support also cooperates with Knowlix's (see page 76) knowledge engine...to have been previously created. Once in place, though, agents can bring up a solution **tree** that'll help guide the caller through a successful resolution. Also notable: A knowledge base...

...287-2236) IQSupport Application Suite. The company has done more than just offer a knowledge **tree** frame on which to hold told info leaves; it's modeled an expert's problem...

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| Set | Items | Description |
|-----|---------|--|
| S1 | 2082487 | (DEVELOP???? OR GENERAT??? OR FORM???) (10N) (PLAN?? OR TA-SK??) |
| S2 | 314 | TEMPLATE (10N) (ARCHIVE OR TREE) |
| S3 | 1 | S1 (S) S2 |
| S4 | 9833350 | LEVEL? |
| S5 | 195505 | TEMPLATE?? |
| S6 | 331 | S1 (S) S4 (S) S5 |
| S7 | 0 | S2 AND S6 |
| S8 | 501865 | TREE |
| S9 | 3 | S6 AND S8 |

?save temp

Temp SearchSave "TD058" stored

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| Set | Items | Description |
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| S3 | 1 | S1 (S) S2 |
| S4 | 9833350 | LEVEL? |
| S5 | 195505 | TEMPLATE?? |
| S6 | 331 | S1 (S) S4 (S) S5 |
| S7 | 0 | S2 AND S6 |
| S8 | 501865 | TREE |
| S9 | 3 | S6 AND S8 |
| S10 | 312519 | QUALITY (5N) CONTROL |
| S11 | 25327 | S1 AND S10 |
| S12 | 459 | S11 AND S4 AND S5 |
| S13 | 48 | S12 AND S8 |
| S14 | 1 | S13 AND S2 |
| S15 | 1869 | AU=(CHANG, M? OR CHANG M?) |
| S16 | 0 | AU=CHIN, LAN-GANG |
| S17 | 1 | AU=CHANG, MING-CHIH |
| S18 | 0 | AU=(FAN, PAO-CHIH) |

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| Set | Items | Description |
|-----|---------|--|
| S1 | 2082487 | (DEVELOP???? OR GENERAT??? OR FORM???) (10N) (PLAN?? OR TA-SK??) |
| S2 | 314 | TEMPLATE (10N) (ARCHIVE OR TREE) |
| S3 | 1 | S1 (S) S2 |
| S4 | 9833350 | LEVEL? |
| S5 | 195505 | TEMPLATE?? |
| S6 | 331 | S1 (S) S4 (S) S5 |
| S7 | 0 | S2 AND S6 |
| S8 | 501865 | TREE |
| S9 | 3 | S6 AND S8 |
| S10 | 312519 | QUALITY (5N) CONTROL |
| S11 | 25327 | S1 AND S10 |
| S12 | 459 | S11 AND S4 AND S5 |
| S13 | 48 | S12 AND S8 |
| S14 | 1 | S13 AND S2 |
| S15 | 1869 | AU=(CHANG, M? OR CHANG M?) |
| S16 | 0 | AU=CHIN, LAN-GANG |
| S17 | 1 | AU=CHANG, MING-CHIH |
| S18 | 0 | AU=(FAN, PAO-CHIH) |

?save temp

Temp SearchSave "TD059" stored

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